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A comparison of selected findings of three statewide surveys (conducted in Arkansas, Indiana, and Wisconsin) which attempted to identify the distinguishing characteristics in the lives of academically talented students who either did or did not enroll or plan to enroll in college. Supporting data from other recently published studies are also integrated in the report. The three State surveys were conducted by Stroup and Andrew in Arkansas, Wright and Jung in Indiana, and Little in Wisconsin.

The report focuses on student characteristics: sex, class rank, mental ability, motives, finances, marriage, and military service; parental characteristics: occupation, education, attitudes, ethnic origin; school characteristics: size, peer influence, influence of teachers and guidance personnel, curriculums; community characteristics: socioeconomic level and proximity to a college.

The publication concludes with nine implications derived from an analysis of the combined findings of the studies cited in the report. Eighteen bibliographic references are appended.

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FACTORS RELATED TO COLLEGE ATTENDANCE

ROBERT H. BEEZER and HOWARD F. HJELM

Research Coordinators
Cooperative Research Program

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
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Foreword

IN RECENT YEARS a great deal of attention across the Nation has been given to the rapidly expanding college enrollments. This phenomenon attests society's increasing awareness of the tangible and intangible values to be derived from a college education. However, despite this widespread recognition of the benefits which accrue to individuals who have had the opportunity of receiving advanced training at an institution of higher learning, every year high schools graduate a sizable number of academically capable students who never will attend college. Not every able student need necessarily go on to college. There are a number of highly desirable vocations whose requirements do not include a college degree. Likewise, many of the intangible rewards of campus experience are available through other pursuits in life. However, there are many students whose lives could be greatly enriched through a planned educational program at a college or university.

There is a need to create new programs, and to expand the scope of those already in existence, to identify and motivate promising students who are not likely to attend college. More and broader programs are needed to provide financial assistance to those not having the wherewithal to pay college expenses. To serve as a basis for these programs, information is needed on such topics as the number of capable students who do not go on to college and the factors in the lives of young people which appear to be related to enrolling or not enrolling in college. Related data from various investigations in this area have been brought together in this monograph. The basic purpose of this report, in addition to providing information of general interest, is to stimulate other investigators to collect data needed for planning new programs and expanding existing ones to increase the flow of academically capable students from high school to college.

DAVID L. CLARK,
Director
Cooperative Research Branch

JOHN G. LORENZ,
Acting Assistant Commissioner
for Research

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Factors Related to College Attendance

I. Introduction

ONE OF THE URGENT problems confronting the Nation is that of meeting the demand for college-trained personnel. Despite the steady increase in college enrollments since World War II, the growing demand for college graduates still exceeds the supply. Although large numbers of capable high school graduates are annually being attracted to our institutions of higher learning, there are many academically talented young people who do not continue their education beyond high school to college. Why is this the case? What characteristics differentiate the capable students who go on to college from those who do not? What factors in the backgrounds of students appear to be related to their enrolling or not enrolling in college? Answers to these and related questions are needed for the effective formulation of programs designed to increase the flow of academically capable students from high school to college. Such programs should be based on an understanding of the factors that affect the decisions of young people concerning college attendance. However, these factors must be identified before attempts can be made to discover the specific nature of their influence.

This report presents selected findings of three statewide surveys conducted in Arkansas, Indiana, and Wisconsin under the sponsorship of the cooperative research program of the U.S. Office of Education. These studies attempted to identify the distinguishing characteristics in the lives of academically talented students who either did or did not enroll or plan to enroll in college. Supporting data from other recently published studies are also integrated in this report.

ARKANSAS STUDY

Stroup and Andrew (*17*) [1] were chief investigators of Cooperative Research Project No. 0008 designed to investigate the factors in the lives of Arkansas high school graduates which might have affected

[1] Numbers in parentheses throughout the monograph refer to publications listed on pages 41 and 42.

their decisions to attend or not attend institutions of higher learning. The subjects of the study graduated in the spring of 1957. The sample included only those students who attended schools which during the academic year 1956–57 administered the American Council on Education Psychological Examination, an academic aptitude test, to seniors in a voluntary statewide testing program. The test was administered in 81 percent of the 507 high schools in which 88 percent of the seniors were enrolled. Questionnaires were given to 15,248 seniors in the spring of 1957; usable questionnaires were returned by 12,746. The sample was representative of schools and students in the entire State with regard to academic classification of schools, proportion of predominantly white and predominantly colored schools, and proportion of male and female students.

In the fall of 1957, the principal or some other school official was asked to indicate the college in which each recent graduate was believed to be enrolled. If a student had written on his questionnaire the previous spring that he was going to enroll in college, the principal was informed of the student's plan. After extensive followup procedures, returns were obtained from all but 118 students in 9 schools.

Registrars of all Arkansas colleges and Texarkana College in Texas were asked to submit a complete list of their freshmen students. Registrars of out-of-State colleges were provided with a list of students who were believed to be attending their respective colleges, and were asked to indicate whether or not each student named had actually enrolled. Cooperation was obtained from all the colleges contacted except five out-of-State schools which seven of the students were presumably attending.

Indiana Study

Another cooperative research project, of which Wright and Jung (*18*) were coinvestigators, attempted to ascertain why capable high school students in Indiana do not continue their schooling. As defined in this study, schooling included training at any institution, not only a college or university. The sample consisted of graduates in the spring of 1955 who ranked in the upper 10 percent of their classes. Questionnaires were completed by the school principals, who identified the upper 10 percent and provided information concerning all the graduates. Of the 3,479 graduates who ranked in the top 10 percent, 1,136 were boys and 2,343 were girls. The girls in the upper 10-percent group thus outnumbered the boys by about 2 to 1, even though both sexes were about evenly matched in the overall number of graduates. The 1,011 individuals in the upper 10 percent who did not continue their schooling constituted the group which was studied.

The high school officials completed another questionnaire which provided essential data regarding each of the 1,011 students in the study. This was followed up by an interview with a representative from each school; only one refused to cooperate. The parents and students were also interviewed. As a result of the interviews, the number of subjects decreased from 1,011 to 875, the number upon which the findings of the study were based. Of the 136 who were dropped from the study, 103 had entered college by the fall of 1956, and 33 were either deceased or could not be located. Information about all 875 students was obtained from interviews with school officials. Parents also provided information about 731 of the students, and 570 of the students supplied information about themselves.

Wisconsin Study

The factors associated with the decisions of Wisconsin youth concerning their education beyond high school were the concern of two cooperative research program surveys which Little (*10, 11*) conducted. The subjects were members of the senior classes in public and private high schools during the academic year 1956–57.

In the spring of 1957 the seniors were asked to fill out a questionnaire (*a*) to indicate in detail their plans beyond high school; (*b*) to provide information about the education, occupation, and economic background of their parents; (*c*) to answer questions about the apparent influence of their teachers, parents, and friends upon their plans; (*d*) to indicate their interest and action in applying for scholarships and admission to college; (*e*) to specify the subjects taken in high school; (*f*) to express their opinions about the value of going to college; and (*g*) to answer a variety of other questions. Questionnaires were returned by 454 of the 501 Wisconsin high schools. They were completed by 34,151 students, or almost 95 percent of the estimated 36,000 Wisconsin high school seniors who graduated in the spring of 1957. The class rank of each graduate was supplied by the school. The principals also submitted names of graduates who, regardless of their intelligence test scores or rank in class, had shown unusual achievement, skill, or talent which would merit being developed by advanced training. Percentile scores on the Henmon-Nelson Tests of Mental Ability for most of the graduates were made available by the Student Counseling Center of the University of Wisconsin, which annually administers a statewide testing program.

In the fall of 1957, a questionnaire was sent to the parents of 5,675 students, representing a random sample of one-sixth of the graduates from each school. The purpose of this questionnaire was (*a*) to learn whether the plans expressed by the graduates in the spring had

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been followed or changed, and (*b*) to discover the attitudes of parents concerning the education of their children beyond high school and the value of college education in general. Returns were received from the parents of 2,780 graduates, 49 percent of the sample.

Since there was special interest in the parents of young people who had high potential for college training, an intensive effort was made to contact all the parents of this group. Graduates were considered to have high potential if they had ranked in the top fourth of their class, and if on the Henmon-Nelson Tests of Mental Ability they had obtained scores among the top one-fourth of those earned by all Wisconsin high school seniors. By special followup procedures—mail, telephone, and personal visits—replies were obtained from 97 percent of this group.

In January and February 1958, followup questionnaires were sent to the 1,060 scholastically talented students who in the spring of 1957 had indicated that they were not planning to go to college. These young people had ranked either in the top one-fourth of their high school graduating classes or among the top one-fourth of Wisconsin high school seniors as measured by the Henmon-Nelson Tests of Mental Ability, or they had been identified by their high schools as having demonstrated unusual achievement or promise. Completed questionnaires were received from 515, or 48 percent, of this group. A postcard followup brought responses from an additional 214 graduates, raising the respondent total to 69 percent. This abbreviated questionnaire asked for a report on (*a*) current activities; (*b*) satisfaction with status; (*c*) plans, if any, for further training or education; and, again, (*d*) attitude toward the value of further education.

In order to obtain data on whether or not there were important differences among schools, communities, and geographic areas of Wisconsin in their yield of college-going students, 442 Wisconsin high schools were categorized into subgroups on the following bases: source of support (public or private); enrollment (small, medium, or large); geographic area; and economic status. A comparison was made among the numbers of college-going students from each of these groups. Within the groups, high-yielding schools of similar size and location were compared with low-yielding schools on the basis of background factors revealed in the responses to questionnaire items.

Caution must be exercised in any attempt to make generalizations based on the stated plans of high school students. The Wisconsin study revealed that of the high school seniors who expressed plans to attend college, 90 percent were found to be enrolled at an institution of higher learning the following fall. In a nationwide sample survey conducted by the Educational Testing Service (*5*), only 65 percent of the students who indicated they planned to attend college actually went, and 7 percent of those who indicated they did not plan

to go really did so. The students of high ability seem more likely to carry out college plans than those of low ability.

The findings of the studies are not all directly comparable because of differences among the definitions of terms used, the types of groups studied, and the methods of investigation employed. However, despite these differences, it was possible to combine similar findings in such a way as to make potentially useful observations related to the retention of students from high school to college. The following sections delineate the characteristics of students and of their families, schools, and communities which the studies found to be most closely associated with the high school graduates' decisions on whether or not to enroll in college.

II. Student Characteristics

THE PROPORTION of recent high school graduates who enter the Nation's colleges and universities is commonly estimated to be approximately 1 out of 3. According to Iff[illegible] (*6*), of the students graduating in the upper half of their high school classes, approximately one-half go to college on a full-time basis and about three-fourths of the latter group eventually receive a baccalaureate degree. No more than 60 percent of all students who enter degree-granting institutions receive degrees.

The Wisconsin study revealed that 30 percent of the State's 1957 high school graduates planned to enroll in degree-granting institutions the following fall. Only 26 percent of the Arkansas graduates in that same year actually enrolled in college the following semester. Studies by Daughtry and Hawk (*2*, *3*, *4*) of the 1955, 1956, and 1957 Kansas graduates revealed that approximately 40 percent of them entered college. Lichtenberger's survey (*9*) of the 1957 Nebraska public high school graduates disclosed that about 36 percent of these students went to college. Studies reported by the Kentucky State Department of Education (*7*) of graduates of public and private high schools for the years 1956 through 1959 disclosed that 31 to 35 percent of them went on to colleges or universities the following fall. A study by Jennings (*14*) reported that the percentage of graduates who enrolled in college from the Montana public and private high schools during the years 1952 to 1958 ranged from 38 to 41 percent. In the aggregate, the findings of all the studies cited above suggest that approximately 35 to 40 percent of the Nation's high school graduates continue their education at the college level.

As one would expect, surveys have demonstrated that the proportion of highly capable high school graduates who attend college is higher than it is for all graduates. The Indiana study of the 1955 graduates revealed that 65 percent of those who ranked in the top 10 percent of their classes went on to college. In Arkansas, 47 percent of the 1957 graduates who scored above the 50th percentile, according to national norms based on the ACE Psychological Examination, enrolled in col-

lege that same year. Approximately 26 percent of all graduates scored above the 50th percentile. By contrast, only 20 percent of those whose scores fell below the 50th percentile entered college. Cusick (*1*), in a survey of the 1955, 1956, and 1957 public school graduates who ranked in the upper quarter of their classes in New Hampshire, found that 53 percent entered a 4-year college. The study carried out by McDaniel and Forenback (*13*) of the top 15 percent of the 1959 Kentucky graduates ranked on the basis of the results of the statewide testing program, disclosed that 76 percent went on to college. In Kansas, it was found that approximately 65 percent of the students who ranked in the upper third of their classes went on to enroll in college. The Montana survey revealed that 79 percent of the 1958 graduates who ranked in the top 10 percent of their classes registered at college the following fall.

Sex

Several of the studies used as sources of information in this report confirm the commonly held belief that more boys than girls attend college. The study of Wisconsin high school graduates disclosed that 34 percent of the boys and 26 percent of the girls planned to enroll in degree-granting institutions. Similarly, 30 percent of the boys and 22 percent of the girls in the Arkansas survey went to college. The corresponding percentages were even higher for the students canvassed in Kansas, where approximately 46 percent of the boys and 34 percent of the girls entered college. The Montana studies of the graduates during the years 1952 to 1958 found that the percentage of boys who enrolled in college varied from 39 to 42, whereas the corresponding percentages for girls were 35 to 42. When the data from these studies were combined, the results revealed that the ratio of boys to girls who entered college during the same year in which they were graduated from high school was approximately 13 to 10.

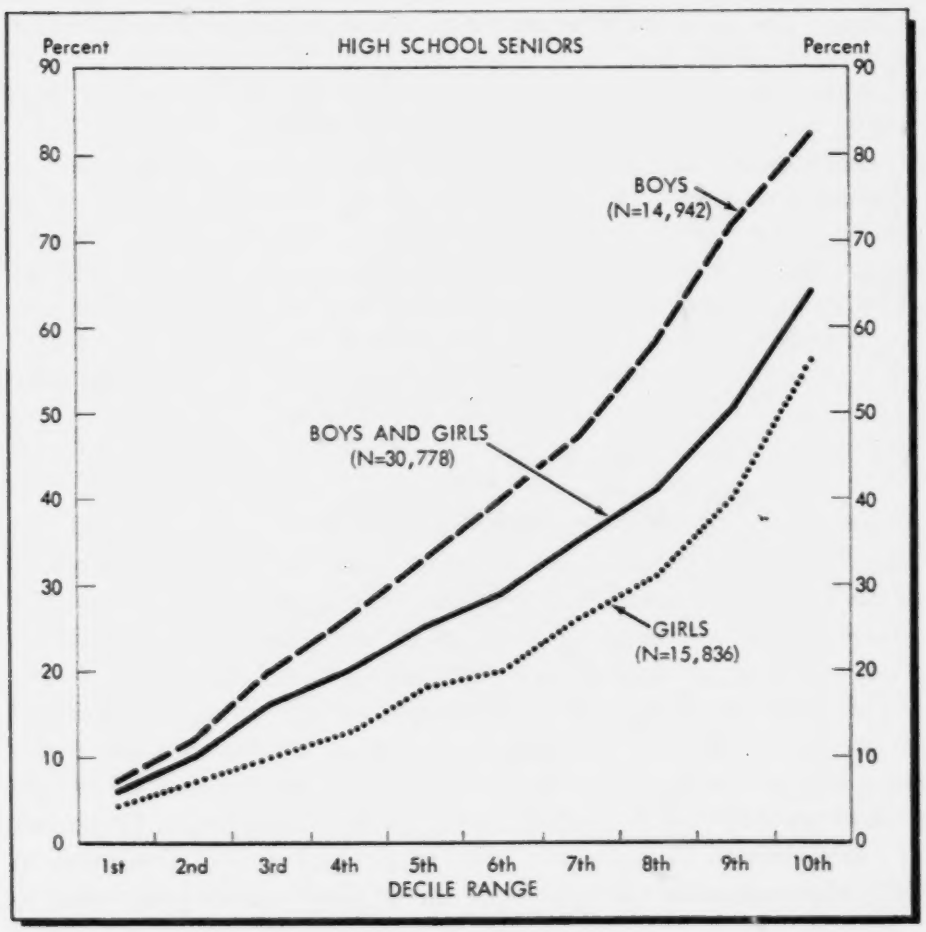
The discrepancy between the proportion of boys and girls who continue their education at the college level is greater for the highly capable students than it is for the less able. In Indiana, 85 percent of the boys and 64 percent of the girls in the upper 10 percent of their classes entered college. Of the high school graduates in Arkansas who earned scores above the 50th percentile, based on national norms of the ACE Psychological Examination, 52 percent of the boys and 40 percent of the girls enrolled at a college. In contrast, the corresponding percentages for the boys and girls who scored below the median were 23 and 18, respectively. In New Hampshire, 72 percent of the male and 44 percent of the female high school graduates in 1957 who ranked in the upper quarter of their classes progressed to

college. Fairly similar results were found for Kansas seniors who ranked above the 67th percentile on both the achievement battery and the general ability battery of the Kansas High School Senior Comprehensive Examination.

Class Rank

As the scholastic achievement of a student increases, the chances of his attending college also increase. The Wisconsin survey reported the plans of the high school students by sex and by decile ranges according to rank in class. The data in figure 1 on the relationship between class standing and plans for college attendance for the Wisconsin boys and girls are similar to the percentages reported by Iffert in a nationwide study.

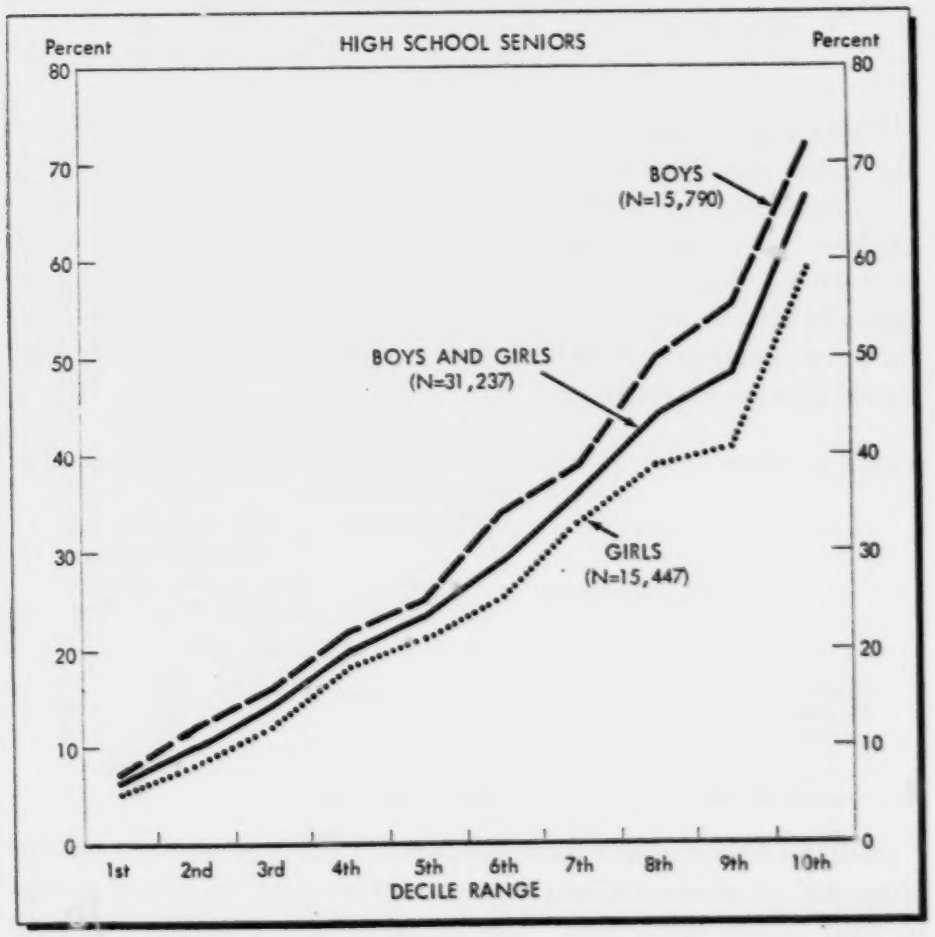
Figure 1. Percent of 1957 Wisconsin high school seniors planning to enroll in degree-granting institutions, by decile range based on class rank.



The Kansas study found that for the upper, middle, and lower third, according to rank in class, the percentages of students enrolled in college were 66, 39, and 13, respectively. The Montana survey of the 1958 graduates found that the percentages enrolling in college by quarters, commencing with the top quarter, were 67, 43, 29, and 15.

Percentile rank statistics must be interpreted with caution. These are comparative measures which, when taken out of context, can be misleading. For example, an individual who had a percentile rank of 98 in a graduating class of 23 students might possibly have ranked much lower if he had been in a class of 350 students. It is possible, however, that a student who ranked first in a small class could also have been the valedictorian in a much larger class.

Figure 2. Percent of 1957 Wisconsin high school seniors planning to enroll in degree-granting institutions, by decile range based on Henmon-Nelson Tests of Mental Ability scores.[1]



[1] Based on Wisconsin norms.

Mental Ability

High mental ability increases the probability that students, especially boys, will attend college. This relation is evidenced by the data in figure 2 showing the percentages by decile ranges on the Henmon-Nelson Tests of Mental Ability of Wisconsin seniors who planned to enroll in degree-granting institutions.

This same relation between ability and tendency toward college enrollment is also illustrated by the data in table 1. This table shows the percentage, by tertile range based on ACE Psychological Examination scores, of Arkansas seniors who enrolled in college. In interpreting the data from the Arkansas investigation, one must take into account the fact that the tertile ranges were based on national norms. As a consequence, 12, 29, and 59 percent of the Arkansas students scored in the upper, middle, and lower tertile ranges, respectively.

Motives

Various investigators have attempted to identify students' reasons for either enrolling or not enrolling in college. With the aid of questionnaires and interviews, the typical study inquires into the expressed positive and negative attitudes of students toward college attendance. Such data are generally of questionable validity; however, the information thus obtained can provide leads and hypotheses for more penetrating research. None of the studies cited presumes to isolate causative influences.

Table 1.—*Percent of 1957 Arkansas high school seniors who enrolled in college, by tertile range* [1]

Tertile range	High school seniors		
	Boys and girls	Boys	Girls
Upper	56	60	50
Middle	34	38	30
Lower	18	21	16

[1] Based on national norms of the ACE Psychological Examination.

Both the Arkansas and the Educational Testing Service (*5*) studies attempted to relate students' reasons for wanting to attend college to their actual enrollment. The Arkansas questionnaire listed 15 possible reasons for going to college. The respondent could check

more than one. Table 2 lists the six reasons most frequently checked by the students who planned to continue their education at the college level.

The Educational Testing Service instrument provided the student with a list of 11 reasons from which he could select either the most important one or none. According to the findings of the Educational Testing Service survey, of the students planning to enroll in college, those who checked reasons such as "need degree," "explore kinds of work," or "enjoy studying" were more likely to carry out their plans than those who checked reasons such as financial rewards, social aspirations, or athletic activity. As expected, students in each of these surveys indicated a wide range of reasons for going on to college. The data obtained in the two studies revealed that among the students who planned to go to college, those who apparently had academic and vocational reasons were somewhat more likely to implement their plans than were those whose ostensible motives were expressed in social or financial terms.

TABLE 2.—*Reasons for planning to go to college indicated by high school seniors in 1957 Arkansas survey: Percent of students who indicated reasons and percent who actually enrolled* [1]

Reason	Percent of sample checking response	Percent of those checking response who went to college
Prepare for a vocation	67	64
Get a liberal education	33	60
Make more money	21	49
Be independent	20	48
Like school	15	55
Make friends and helpful connections	14	59

[1] Students were permitted to check more than 1 reason.

In the Wisconsin survey, the respondents were asked to check the three opinions about the value of a college education which seemed most important to them. Comparisons were made, on the basis of the opinions checked, between those who planned to attend college and those who had no such plans. Both groups tended to agree on the general values of a college education. The students who did not plan to go to college tended to check statements representing immediate practical and economic considerations consistent with their plans, more often than did the college-bound students. The latter were likely to be more interested in obtaining additional knowledge and ability.

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In the Arkansas study, the two reasons checked most frequently for wanting to go on to college were to prepare for a vocation and to get a liberal education. The reasons chosen with the highest frequency by those who did not plan to go to college were to be independent and to start making money.

An interviewer and three other persons reviewed the data available for each student in the Indiana study. These four readers independently designated what they thought was the single most important factor associated with each student's failure to enroll in college. In their opinion, 59 percent of the boys and 35 percent of the girls who were capable students did not go on to college for one or several of the following reasons: regarded high school graduation as a terminal stage in their education; desired to begin earning money immediately; had a strong competing interest, such as military service or marriage.

Iffert found that men and women stated different reasons for attending college. Men placed the greatest importance on occupational reasons; academic reasons were second in importance. The order was reversed for women. Social service, personal and traditional reasons ranked below occupational and academic reasons for both sexes.

Finances

The cost of a college education can be a strong determinant of whether or not a student will attend college. Fortunately, however, in recent times it has been possible for many students to obtain a college education even if their families could not provide the necessary financial assistance. If a young person has the necessary academic ability, is highly motivated, has good health, is not needed at home, and does not have financial obligations other than those associated with his obtaining an advanced education, he can generally attend some college. Some municipal and State colleges have either relatively low tuition fees or none. A student can often obtain a part-time job in order to supplement his financial resources. In addition to scholarships, many colleges have student loan plans. Substantial amounts of money have been provided for loans to college students by the Federal Government under title II of the National Defense Education Act of 1958. In recent years, some banks have established the practice of making available to promising students low-interest loans which the individuals need not begin repaying until after they have been out of school for a year.

Lansing, Lorimer, and Moriguchi (*8*), at the Institute for Social Research of the University of Michigan, conducted a cooperative re-

search project in which an attempt was made to ascertain how students pay for their college education. This study, based on a nationwide sample, found that the average annual expense of unmarried students during the academic year 1959–60 was $1,550. The college expenses of three-fourths of the single students interviewed ranged between $950 and $2,450. Using the figure $1,550 to represent the average cost per year, the investigators estimated that approximately $950 came from parents, $360 from student earnings, $130 from scholarships, and $110 from other sources.

A student's financial resources for college expenses are usually highly correlated with the economic ability of his parents to finance his education. The survey of the Institute for Social Research disclosed that most parents who have children in college contribute between $500 and $1,500 annually toward the cost of each child's education; only 13 percent reported providing less than $50 annually, and 2 percent were contributing more than $3,000 per year. The studies revealed a positive relationship between the financial and/or occupational status of the families and college attendance by the children in the families. This relationship was present, but to a lesser degree, regardless of the level of mental ability and/or scholastic achievement of the high school graduates or the educational attainment of the parents.

Economic ability is an important factor affecting the decisions of high school graduates regarding college attendance. In individual cases it is a critical factor. However, the lack of money did not appear to be the overriding reason of large numbers of academically talented graduates for not continuing their schooling. In the Wisconsin study, 43 percent of the students planning to get jobs indicated that their parents could not afford to finance a college education. Of those planning to go on to college, 17 percent indicated that their parents could not afford to finance a college education. In response to an item asking the students how much their parents could contribute to their college education, 20 percent of those planning to get a job said none, and 12 percent said their parents would be able to assume the total cost. Four percent of the students planning to go to college said their parents would not be able to provide anything.

In the Indiana study, which was concerned with the top 10 percent of the seniors, 38 percent of those not planning to go to college—39 percent of the girls and 32 percent of the boys—indicated that the cost of an advanced education would prevent it. Of the capable Indiana students who did not continue their schooling, 11 percent stated that they had to stay home to help their families financially. The percents for males and females were 19 and 10, respectively. Statistics derived from interviews with school officials concerning the need for these students to stay home and help their families financially were strikingly similar.

The Wisconsin high school seniors in the spring of 1957 had a realistic idea of what the cost of going to college would be. Eleven percent stated that they thought it would cost less than $1,000 for one school year to go to college away from home. The estimate of between $1,000 and $1,500 was made by 54 percent of the students, and 31 percent estimated the yearly cost to be between $1,500 and $2,000. Four percent judged the cost to be in excess of $2,000.

Scholarships and loans were significant sources of funds for those unable to pay for their education. However, it is generally felt that the scholarships available are far too limited and often are awarded to individuals for whom the monetary gift would not be a determining factor. The survey of the Institute for Social Research (*8*) disclosed that three out of four students in their sample received no scholarship support or less than $50. Between $50 and $449 was received by 15 percent of the students; 9 percent were the recipients of $450 or more.

According to a report by the State Scholarship Committee in Wisconsin (*16*), 16 percent of the State's college and university students for the fall of 1958 had scholarships. In general, the percentage of freshmen who received scholarships was almost twice that of scholarship holders in the sophomore, junior, and senior years. More than 50 percent of the scholarship students indicated that they would have attended college without this outside financial aid; only 10 percent reported that they could not have entered college without it.

A study conducted by Parker and Wright (*15*) at Brigham Young University, which used as subjects scholarship applicants at that university in the fall of 1954, found that of the 247 successful applicants, 88 percent said they would have enrolled in a college even if they had not received the financial assistance. Of the 381 applicants who were not awarded scholarships, 82 percent were enrolled either at the university or at some other college. Of those who did not attend any college, 24 percent mentioned failure to receive a scholarship as the reason for not attending.

The Arkansas study investigated the need for scholarships. When high school seniors were asked about the financial assistance they would need, of 332 students in the upper tertile and 1,484 students in the middle tertile group (according to scores on the ACE Psychological Examination based on national norms) who did not plan to go to college and did not go, 160 in the upper tertile and 624 in the middle tertile range said they would change their plans and attend college if they had more money. There were 172 in the upper and 860 in the middle tertile range who said they would not alter their plans even if they were given the necessary funds.

The Wisconsin study revealed that 32 percent of the boys and 30 percent of the girls would be willing to borrow money to pay for

college expenses. A direct association between such willingness and scholastic rank in class for boys ranged from 15 percent in the lowest decile group to 63 percent in the highest decile range. The percents for girls were 12 and 44, respectively.

Marriage

Being married or planning to be married reduces the probability that a student will go on to an institution of higher learning. However, having one's education curtailed by marriage or engagement is associated more with females than males, and more with low ability than with higher ability students. Marriage or plans for marriage affect only a small percentage of the total population of high school seniors. The Wisconsin study discovered that only 1 percent of the girls were already married or planning to marry. The Arkansas survey asked the seniors whether or not they were single, engaged, or married; using national norms, it reported statistics for students scoring in the upper and middle tertile ranges on the ACE Psychological Examination. In the upper tertile range, 73 individuals who reported that they were engaged or married did not enroll in college; only 5 such individuals went to college. The corresponding figures for the middle tertile group were 330 and 19, respectively. The Indiana study of capable students who did not go on to college disclosed that 64 percent of them were either married or planning to be married soon. The percentages for girls and boys were 68 and 37, respectively.

Military Service

Military service attracted a sizable number of male high school graduates and thus interrupted either temporarily or permanently their progress toward a college education. In the Wisconsin survey, 23 percent of the males were planning to enter one of the branches of the Armed Forces. Of the academically capable male youth in Indiana who did not go on to college, 18 percent enlisted in the military service. Many of these boys would undoubtedly receive, during military service, valuable general and technical training. Approximately 15 percent of them indicated that they were planning to attend college after being discharged from the service.

III. Parental Characteristics

None of the studies attempted to compare the relative effectiveness of the influence which various factors in the lives of students have upon their decisions either to enroll or not to enroll in college. However, it is generally considered safe to assume that the influence which parents either directly or indirectly bring to bear on their children is probably as great as that from any other source. The influence of a young person's peers, teachers, and other adult acquaintances can be considerable; nevertheless, because of the child's dependency on his parents, and because of the strong emphasis given to filial devotion in our culture, parental influence is undoubtedly highly significant.

Occupation

High school graduates whose fathers were white-collar workers (executives or professional people, owners or managers of businesses, or office or sales personnel) were much more likely to plan to attend college than were graduates whose fathers were blue-collar workers (farm-managers, factory workers, skilled or semiskilled tradesmen). There were as many college-bound students, however, whose fathers were in the blue-collar group as there were in the white-collar occupations. The percentages of Wisconsin students, by occupational classification of their fathers, planning to attend college are presented in table 3.

The fathers of the students who planned to go to college were engaged in all types of occupations. As the ability and achievement of students increased, there was a decrease in the difference between the numbers of their parents in the executive, professional, business, office, or sales occupations and those in other occupations. In Wisconsin, a majority of the graduates who had ranked in the top fourth of their classes were planning to attend college regardless of the occupation of their fathers.

TABLE 3.—*Percent of 1957 Wisconsin high school seniors planning to attend college, by occupational classification of father*

Occupational classification of father	Seniors planning to attend college (percent)
All occupations	30
Professional or executive	64
Office or sales	46
Skilled	28
Small business	43
Farm	18
Service or semiskilled	20
Other	30

The Arkansas study yielded similar findings concerning the parents of college-bound young people in that State. The percentages who had fathers in various occupations are given in table 4. The data are given for those students whose scores on the ACE Psychological Examination fell within either the upper or middle tertile groups. The cutting scores for separating the students into these two tertile groups were based on national norms. Due to the fact that the scores at the 33d and 67th percentiles based only on Arkansas students are not the same as those for the national norms, each tertile range does not contain one-third of the Arkansas graduates.

The data from the Kansas studies also support the notion that capable students will probably go on to college regardless of the occupations of their fathers. Of the students who scored above the 67th percentile on both the achievement battery and the general ability test, both of which are included in the Kansas High School Senior Comprehensive Examination, 65 percent enrolled in college. Eighty-

TABLE 4.—*Percent of 1957 Arkansas high school seniors enrolling in college, by tertile range and by occupational classification of father* [1]

Occupational classification of father	Middle tertile range	Upper tertile range
All occupations	34	56
Professional	58	73
Owns or manages business	51	66
Officework	50	63
Sales	41	75
Owns or manages farm	27	46
Skilled tradesman	28	48
Factory worker	24	35
Other	34	54

[1] Based on national norms of the ACE Psychological Examination.

eight percent of the students from this group whose parents were professional or semiprofessional enrolled in college. Similarly, the percentages were 80 percent for the children of managerial workers; 69 percent for sales, clerical, and service personnel; 63 percent for farmers; and 56 percent for factory workers, craftsmen, and unskilled workers.

Education

Approximately one-third of the Wisconsin students who planned to go on to college had fathers who had attended college, about one-third had fathers who had graduated from high school but had not attended college, and approximately one-third had fathers who had not graduated from high school. However, the chance that high school graduates would go on to college increased markedly with each increment in the educational attainment of parents. The percentages of students in the Wisconsin study who planned to attend college are presented in table 5 according to the educational levels of the parents. The percentages for the girls were practically identical with those for the boys. The differences between the figures for fathers and mothers are very slight. When one of the parents had attended college, the probability of a student's planning to enroll in college become greater than one-half.

TABLE 5.—*Percent of high school seniors planning to attend college, by educational level of parent: 1957 Arkansas and Wisconsin studies* [1]

Educational level of parent	Wisconsin students	Arkansas students	
		Middle tertile range	Upper tertile range
Father			
Did not attend high school	17	22	36
Attended high school, but did not graduate	24	23	50
Graduated from high school, but did not attend college	36	43	63
Attended college	64	64	73
Mother			
Did not attend high school	17	19	38
Attended high school but did not graduate	21	29	47
Graduated from high school, but did not attend college	36	43	60
Attended college	60	65	75

[1] Arkansas data based on ACE Psychological Examination using national norms; Wisconsin data based on Hermon-Nelson Tests of Mental Ability using Wisconsin norms.

TABLE 6.—*Wisconsin high school seniors planning to attend college whose parents did so: Percent of entire student body and of students in upper fourth of class, 1957*

High school seniors planning to attend college	Percent of students whose parents attended college	
	Fathers	Mothers
All students:		
Boys	66	60
Girls	62	54
Students in upper 4th of class:		
Boys	73	78
Girls	81	79

The relation between the educational level of parents and the enrollment of high school graduates in college decreases as the ability of the students increases. The data derived from the Arkansas survey in table 5 show this relationship for the students whose ACE Psychological Examination Test scores fell within either the upper or middle tertile range. There is a greater relationship between the educational level of parents and the likelihood that students in the middle tertile group will attend college than there is for the students in the upper tertile range.

Table 6 shows the likelihood of a Wisconsin high school senior planning to enroll in college if his father had attended college. Similar information is presented for a senior if his mother had done so. There is evidence in the Wisconsin study that the plans of the graduates are more related to the parents' level of education than to their occupations. There was a tendency for the differences among the percentage of students who planned to attend college to decrease when the education level of the parents was the same, even though their occupations were different.

ATTITUDES

The studies suggest that plans of high school graduates to attend college are markedly influenced by attitudes of parents, particularly when there is positive encouragement from the parents. The data available on this topic suggest that the effects of an attitude of indifference toward college, or even active discouragement on the part of the parents, was overcome by only a relatively small number of the graduates. A majority of the young people who were not continuing their education at the college level had parents who either did not encourage college attendance or were indifferent toward it.

The Indiana study, which was concerned with capable high school students who do not continue their schooling, revealed that many of the parents of academically capable students had an unfavorable attitude toward an advanced education for their children. As reported by the students, 23 percent of their parents were opposed to their continuing their studies. Of the parents surveyed, 26 percent expressed a negative attitude toward having their children go on to college. The school officials reported that 42 percent of the parents did not favor sending their children to college.

The impact of parental attitudes toward advanced education appears to vary with the sex of the child. In the Wisconsin survey, the college-bound girls were ostensibly more highly influenced by the attitudes of their parents than were the boys. The responses of students and their parents in the Indiana study seemed to support this finding, although the statements made by the school officials did not suggest that a significantly greater number of girls were influenced by the attitudes of their parents.

Ethnic Origin

The studies provide little information about the influence of a student's ethnic origin on his likelihood of enrolling in college. The Arkansas survey disclosed that 27 percent of the students from predominantly white high schools went to college, whereas the corresponding figures for the predominantly colored schools was only 20 percent. From the predominantly colored schools the percentages of male and female graduates who registered at a college were almost equal, the percentage being slightly higher for the girls. This finding is in sharp contrast to other studies, which show that boys enroll in college in greater proportion than girls.

IV. School Characteristics

An attempt was made to locate in the studies evidence of the relationship between various secondary school characteristics and the tendency for students to enroll in college. The factors expected to be highly related to plans to enter college were school size, peer influence, teacher influence, guidance programs, and curriculums. No information was found among the selected studies to suggest that peers, teachers, and guidance programs markedly influence students to enroll or not to enroll in college. As expected, the data demonstrate that there are significant positive relationships between high school enrollments and curriculums and plans to go on to college. However, as the following discussion indicates, the number of students planning to register at college is probably highly related to factors other than the characteristics of schools.

Size

Most of the surveys disclosed that a greater percentage of students from large high schools than from small schools planned to go to college. The data in table 7, for example, show that the percentage of Wisconsin seniors who planned to attend college increased with

Table 7.—*Number and percent of 1957 Wisconsin high school seniors planning to attend college, by sex and size of high school graduating class*

Size of graduating class	Students planning to attend college			
	Boys		Girls	
	Number	Percent	Number	Percent
59 or fewer	4, 316	27	4, 353	21
60–119	3, 714	32	4, 068	26
120–259	4, 228	38	4, 269	27
260 or more	4, 321	40	4, 852	31

the size of the graduating class. Although the increase was greater for boys than for girls, it was not markedly so. These findings, however, should be interpreted in the light of information concerning the occupations and level of education of the parents. The parents of 39 percent of the graduates of the smallest schools (those having 1 to 59 graduates) were farmers. This is the occupational group of which only 18 percent of the children planned to enroll in college. The fathers of 32 percent of the graduates of these small schools had not attended high school, compared with 19 percent of the fathers of the graduates of the largest schools (those with 260 or more graduates). Only 16 percent of the fathers of the graduates of the smallest schools had attended college, whereas 32 percent of the fathers of the graduates of the largest schools had done so.

The location of the colleges in Wisconsin makes them more accessible to the graduates of large high schools. In addition, only 18 percent of the graduates of the smallest high schools scored among the top 20 percent on the mental ability tests, whereas 34 percent of the graduates of the largest high schools did so.

Thus, the facts concerning the occupation of the parents, the location of the small schools with respect to the colleges, and the mental ability of the students suggest that any relationship between the size of the Wisconsin high schools and the probability of their graduates' enrolling in college is not a function of size itself. The characteristics of the graduates and of their parents appear to be more important.

The findings of the Arkansas study were similar to those of the Wisconsin survey. As the enrollment of the high school increased, so did the percentage of students planning to go on to college; thus, from high schools with enrollments of less than 200, 200 to 499, 500 to 999, and over 1,000, the percents were approximately 37, 45, 49, and 56, respectively.

The trend found in Wisconsin and Arkansas for the number of graduates who enrolled in college to become greater as the graduating class or school size increased also prevailed among the 1957 high school seniors in Kansas. According to the data in table 8, the percentage of college enrollees from the Kansas high schools of various sizes was higher when the high school enrollment was greater. A similar trend was reported for the 1955 and 1956 Kansas high school graduates.

Little concludes from the Wisconsin survey that additional information must be obtained before the direct effect of the proximity of a college to the homes of students can be ascertained. On the basis of available evidence, it appears likely that more students attend college if there is one within commuting distance than if that is not the case. However, the determination of how much of this tendency can be attributed to the mere presence of an institution, and how much to

TABLE 8.—*Number and percent of 1957 Kansas high school graduates who enrolled in college, by size of school attended*

High school enrollment	Students who enrolled in college					
	Boys and Girls		Boys		Girls	
	Number	Percent	Number	Percent	Number	Percent
60 or fewer	688	30	436	36	252	23
61–150	1, 474	32	907	38	567	26
151–475	2, 026	39	1, 163	45	863	34
476 or over	4, 414	50	2, 445	55	1, 969	44

the income and education levels of the community residents and the degree of urbanization of the community must await further investigation.

It is evident that there was a tendency for the percentage of students who planned to go to college to become greater as the enrollments of the high schools increased. However, it would not be correct to deduce from this observation that the size of a school in and of itself could be used as a reliable indicator of the probability of its students to enroll in college. In Wisconsin, for example, some of the small schools produced proportionately more college-bound students than did some of the large schools. The fact that in general the small schools sent relatively fewer students to college than did the larger ones might be accounted for by the fact that these schools tended to be in rural areas where community characteristics and parental backgrounds were not conducive to college attendance.

ACCREDITATION

The Wisconsin study also revealed that the effect of accreditation on the likelihood of students to enroll in college seemed to be more important than school size. Generally those high schools which had satisfied the standards of regional accrediting agencies produced higher yields of college enrollees than those which were not accredited. The fact that a school has achieved accreditation usually indicates that the community in which it is located places a comparatively high value upon good schools and education. It is reasonable to assume that a community's interest in its schools and in education predisposes its youth toward enrolling in college more than does the mere size of

its schools. The accomplishment of accreditation might be considered a reflection of the civic interest and pride of the community and of the quality of leadership in the school.

Peer Influence

In the studies cited in this report, very little was written about the influence of peers on the decisions of high school graduates to advance their education at the college level. There are several possible explanations for this. One is that it is an accepted fact that most teenagers are affected to a considerable extent by the attitudes and behavior of people their own age. Undoubtedly, there is a strong tendency for many high school seniors to declare intentions of going on to college, even though such pronouncements might be contrary to fact, in order to be identified with the crowd that is going. A second probable explanation for the brief treatment given to peer influence is that this type of information is extremely difficult to obtain, even in a depth interview.

A large majority of the Wisconsin graduates expressed plans for doing what they thought their friends hoped to do, regardless of their actual plans, especially those who stated that they would enroll in college. The data in table 9 reveal that, of those planning to pursue their education at the college level, 75 percent indicated that their friends had the same plans. By contrast, only 18 percent of this same group reported that their friends were planning to get a job, 5 percent were expected to enter the military service, and 2 percent were thought to be planning to follow some other pursuit.

Table 9.—*Percent of the 1957 Wisconsin high school seniors reporting plans of friends, by plan category*

Plans of seniors	Plans of friends				
	Total	Enroll in college	Get a job	Enter military service	Other
Enroll in college	100	75	18	5	2
Get a job	100	15	71	10	4
Enter military service	100	17	23	59	1
Attend school other than college	100	44	44	8	4

Students in the Indiana study, those in the upper 10 percent of their classes who did not continue their education beyond high school,

reported that about one-half of their close friends continued their education, but not necessarily at the college level. This percentage was roughly the same for both boys and girls.

Teacher Influence

As in the case of peer influence, most of these studies did not deal with the subject of teacher influence and its effect on the decisions of high school graduates to attend college. In the Wisconsin survey, the students who indicated that they were going on to college tended not to credit their teachers with having had an appreciable influence upon their stated intentions to continue their formal education (table 10). However, teachers were reported to have had more effect on the plans of the college-bound students than on the graduates who had other plans.

The number of Wisconsin graduates who said their teachers had no influence on their decision to go on to college was almost twice as great as the number who said their plans had been influenced very much by their teachers. These data should not be interpreted to suggest that individual teachers did not exercise considerable influence on the decisions of individual students. The information merely reveals that only a relatively small number of students credited their teachers with having had very much influence on their plans to enroll in college. Obviously, a valid measure of the extent of teacher influence would be extremely difficult to obtain. There undoubtedly was considerable variation among the students in terms of their subjective impressions of the influence of their teachers. One cannot help but wonder how a student who felt that one teacher had influenced his plans "very much," two teachers "some," and three or more "not at all," for example, responded to this inquiry.

TABLE 10.—*Extent to which the plans of the 1957 Wisconsin high school seniors to attend college were influenced by their teachers: number and percent of each sex*

Extent of influence	Students reporting extent of teacher influence			
	Boys		Girls	
	Number	Percent	Number	Percent
Not at all	1, 294	22	1, 057	21
Some	3, 538	45	2, 551	29
Very much	716	47	589	32

Among the 1,011 Indiana students in the upper 10 percent of their class who did not continue their education beyond high school, 445 of the 570 interviewed, approximately 78 percent, reported that someone in an official capacity in their high school talked to them about continuing their education. However, more than 20 percent of these students reported that no one connected with their high school had discussed additional schooling with them. More boys than girls reported they had discussed the matter with someone in high school.

Guidance

Very little evidence was obtained in any of the surveys cited which would provide an indication of the relationship between guidance programs and the decisions of high school graduates to attend college. The questionnaire used in the Wisconsin study contained the following questions: "To what extent have you discussed your plans with your teachers or counselors?" and "How much did they influence your plans?" An enumeration of the responses to these queries was presented in the survey report in a section entitled, "Influence of Teachers Upon Plans." These findings have been presented in table 10.

The school officials who participated in the Indiana study reported that approximately 90 percent of the schools involved in the survey had college orientation programs of some kind. As could be expected, fewer small schools than large ones had such programs. However, over 75 percent of the smallest schools had some kind of orientation program. Approximately 28 percent of the Indiana students reported that information concerning further educational opportunities was not introduced until the 12th grade. Roughly 6 percent, 12 percent, and 19 percent stated that such information was discussed only in the 11th, 10th, and 9th grades, respectively. In 66 percent of the cases, the matter of educational opportunities was dealt with only at one grade level. Only one-fourth of the students reported that the topic of further education was treated at more than one grade level.

None of the studies attempted to report on the influence of a guidance program on students' decisions to enter college. Admittedly, this would be an extremely complex undertaking, although attempts were made in several of the surveys to obtain indices of teacher and peer influence. Identifying the factors having a significant effect on the decisions of a group of individuals is an almost impossible task, for most individuals are unable to discern the relative effect of various factors in their lives on the decision-making process.

Those who have had considerable experience working with teenagers can attest that frequently these young people are not willing to credit adults with having influenced their decisions. Some observers have attempted to account for this on the basis of the adolescent's desire for emancipation from adult control. One of the authors of this monograph conducted a study in which the students interviewed were asked, in effect, whether or not a precollege vocational counseling program had been of much help to them. The records showed that 39 percent of the students had chosen a profession which had been suggested during counseling. Despite the fact that many of these students had given no indication on a questionnaire completed prior to counseling that they had ever considered the profession selected, the majority failed to mention the counselor's recommendation. All of these same students when asked whether or not they would recommend the precollege counseling to a friend, stated, in effect, that although the counseling had not been of any particular help to them, it could be valuable to others.

CURRICULUMS

In only two of the studies were attempts made to show a relationship between plans for college attendance and the courses taken in high school. As expected, the course taken with the highest frequency by those who either enrolled (Arkansas students) or planned to enroll (Wisconsin students) in college was the college preparatory curriculum. However, as shown by the data in table 11, the number of Ar-

TABLE 11.—*1957 Arkansas high school seniors who enrolled in college, by high school curriculum and tertile range* [1]

High school curriculum	Students enrolling in college								
	Upper tertile range			Middle tertile range			Lower tertile range		
	Boys and girls	Boys	Girls	Boys and girls	Boys	Girls	Boys and girls	Boys	Girls
College preparatory	544	332	212	571	349	222	413	231	182
General	182	102	80	441	248	193	629	352	277
Commercial	40	11	29	116	25	91	151	30	121
Shop or technical	8	8	0	22	22	0	31	29	2
Agriculture	4	4	0	34	34	0	78	76	2
Other	14	11	3	17	11	6	25	11	14

[1] Based on national norms of the ACE Psychological Examination.

kansas students who had taken the general curriculum (1,252) was a close second to the number who had elected the college-preparatory curriculum (1,528). A larger number of students who obtained scores in the lower tertile range of the ACE Psychological Examination had been enrolled in the general curriculum than in the college-preparatory courses. However, the choice of curriculum was not a voluntary one in all schools. A sizable number of students in the middle and upper tertile ranges reported that the curriculum they had taken was required by their school. An even larger number stated that the course they had followed was the only one offered in the school they had attended. About one-fifth of the upper and middle tertile seniors were enrolled in a particular curriculum because *they had no other* choice.

V. Community Characteristics

In several of the surveys, attempts were made to ascertain the differences among communities, if any, which could be related to the number of students in their population who were planning to enter college. In the Wisconsin study, comparisons between communities with either high or low yields of students who had expressed intentions of going on to college revealed that the variations in the number of college enrollees were associated largely with differences in the socio-economic status of the communities or neighborhoods in which the schools were located. In this same study, as well as in several others, the proximity of the community to a college and the rural or urban location served as important bases for comparisons among communities with differential yields of students who planned to gain admission to college. In general, it was discovered that the factors which depressed college attendance among students in any school surveyed were simply present to a greater degree in low-yield schools. Similarly, the factors conducive to college attendance were present to a greater extent in the schools which produced a high yield of students who planned to attend college.

Socioeconomic Level

An estimate of the dollar income per household was used in the Wisconsin survey as a measure of economic status. In general, the income level in the State increased from north to south and west to east—the same direction in which the population has been converging. The data in table 12 show the relationship between the average income level of counties in Wisconsin and the percentage of students who expressed intentions of going on to college. The income level of a community tended to be higher than it was for other communities within the same region, if a college were readily accessible. One finding for which there was no ready explanation is that among counties which have an income level below the State median, the relationship was slightly negative.

The Wisconsin survey was the only one which attempted to determine the relationship between the socioeconomic level of a community and the number of seniors living there who plannned to enroll in college. The results of this study suggest that college attendance does not increase proportionately with a rise in income level. Apparently, other variables are more highly related to the process of making plans to attend college.

TABLE 12.—*Distribution of Wisconsin counties showing the relationship between the percent of 1957 high school seniors planning to enroll in college and the average income per household*

Percent of students planning to go to college	Number of counties, by household income						
	$3,500–$3,999	$4,000–$4,499	$4,500–$4,999	$5,000–$5,499	$5,500–$5,999	$6,000–$6,499	$6,500–$6,999
42 to 43	------	1	------	------	------	------	1
40 to 41	------	------	------	------	------	------	------
38 to 39	------	------	------	1	------	1	1
36 to 37	------	------	------	1	------	1	------
34 to 35	1	------	------	2	2	------	1
32 to 33	------	3	------	------	2	1	------
30 to 31	1	1	3	------	2	2	------
28 to 29	------	1	------	1	1	------	------
26 to 27	2	3	2	2	1	------	------
24 to 25	------	2	5	------	1	------	------
22 to 23	------	5	2	2	------	------	------
20 to 21	------	2	5	------	1	------	------
18 to 19	1	------	1	1	------	------	------
16 to 17	------	1	------	------	------	------	------
Median per county	27	26	24	28	31	32	38

PROXIMITY TO COLLEGE

Approximately two-thirds of the American people live in the 215 areas which the 1960 census classifies as metropolitan. Several of the studies attempted to determine whether or not there is a tendency for more students whose homes are near a college to matriculate than those who do not live near a college.

It is a commonly held belief that students who live either near a college or in a college community are more likely to think in terms of continuing their formal education than those whose homes are not near an institution of higher learning. Daughtry and Hawk, in their study of the 1957 Kansas graduates who enrolled in college (*3*), found this generally to be true. The data in table 13 disclose that a higher percentage of graduates who lived in a college community matriculated than those whose homes were not in such a community.

TABLE 13.—*Number and percent of 1957 Kansas high school graduates who enrolled in college, by geographical location of high school attended in relation to nearest college*

Location of high school	College enrollees	
	Number	Percent
In a community with more than 1 college	2, 425	53
In a community with 1 college	2, 315	51
Within 10 miles of a college but not in the same community	302	32
Within 11 to 25 miles of a college	1, 371	32
Within 26 miles to 50 miles of a college	1, 147	32
Within 51 to 100 miles of a college	866	34
Farther than 100 miles from a college	176	40

An interim report of a cooperative research project being carried out by McConnell (*12*) at the University of California disclosed that the communities having the highest percentage of high school graduates who enter college were those with junior colleges. Communities with State colleges were next in order. The communities which had the lowest number of students entering college were those with only extension centers or no colleges. These findings are presented in table 14.

The Indiana study, which delimited its attention to students who ranked in the upper 10 percent of their classes but did not continue their education, revealed that of the 570 young people who reported on this particular issue, only 76, or 13 percent, indicated that if it had been possible to live at home they would have continued their education beyond high school. However, more than 8 out of 10 students in this survey stated that inability to live at home was not one of the factors which kept them from continuing their education.

TABLE 14.—*Percent of 1959 California high school graduates who continued their education, by type of college in their community*

Type of advanced education	Percent of students, by type of college in home community				
	Junior college	State college	Multiple colleges	Extension center	None
	(N=2,392)	(N=2,309)	(N=1,005)	(N=3,256)	(N=538)
College	49	45	42	33	32
Special school	4	5	3	8	10
Unclassified	7	5	7	4	5
None	39	45	48	54	52

In a nationwide survey, Iffert found that a higher percentage of students attend a 4-year college located beyond a convenient traveling distance from their homes than one located in the same city or within a reasonable daily traveling distance (table 15). However, this was not the case for students in attendance at junior colleges, where 59 percent of the students were from homes located within a convenient traveling distance from the college they were attending. It is extremely difficult to draw conclusions from these findings since they are confounded with such factors as population concentrations and proximity to other institutions.

TABLE 15.—*Home location in relation to college of students in a 1950 nationwide sample, by type of institution in which they first registered*

Location of home in relation to college	Percent of students, by type of institution					
	Total 4-year institutions	University	Technological institution	Liberal arts college	Teachers college	Junior college
	(N=7,773)	(N=3,375)	(N=515)	(N=2,743)	(N=1,140)	(N=558)
Total	100	100	100	100	100	100
Within convenient daily traveling distance	39	46	41	28	44	59
Beyond convenient traveling distance	61	54	59	72	56	41

SOURCE: U.S. Department of Health, Education, and Welfare, Office of Education, *Retention and Withdrawal of College Students*, (Bulletin 1958, No. 1)

Little concludes from the Wisconsin survey data that there is no clear-cut relationship between college attendance and the proximity of institutions to the homes of students The presence of a college in a community did not in itself cause large numbers of resident students to matriculate. Enrollments in some of Wisconsin's State colleges would be relatively small if they did not attract students from all over the State. Information obtained in the study provided some indication that possibly the income and education levels of the community residents and the degree of urbanization of the community were more important determiners of college attendance than the mere absence or presence of an institution of higher learning.

VI. Summary

THE MORE COMPLEX a society becomes, the greater is the demand for college-trained personnel of high caliber. Consequently, effective measures are needed for increasing the rate of retention of academically capable youth from high school to college. Plans for the development of programs designed to accomplish this could not proceed very far without the benefit of data on the number of high school seniors in the Nation who possess the potentialities for profiting from instruction at the college level. Information would also be needed on the factors associated with tendencies of students to enroll or not to enroll in institutions of higher learning. The general intent of this monograph was to bring together from a group of recent surveys findings which could serve as a nucleus for a more comprehensive body of data for the formulation of effective procedures to increase the flow of capable students from high school to college. Findings from three statewide studies sponsored by the Cooperative Research Program of the U.S. Office of Education were integrated with those of other studies reported in the literature within the past 5 or 6 years.

In the State surveys conducted in Arkansas by Stroup and Andrew (*17*), information was obtained from questionnaires completed by students who were high school seniors during the 1956–57 academic year, as well as from high school officials and registrars of colleges and universities.

Wright and Jung (*18*) were coinvestigators of the State survey carried out in Indiana. The high school seniors in the 1955 graduating class who ranked in the upper 10 percent of their classes and who did not continue their education comprised the group under investigation. Questionnaires were administered to and interviews conducted with students, parents, and school officials.

The third statewide survey was made by Little (*10, 11*) of all Wisconsin students who were seniors during the school year 1956–57. Data were obtained from students, parents, and school officials. Special attention was focused on the information obtained from academically capable youth. The data analysis included attempts to ascertain the differences among schools and communities in their yield of college-bound youth.

Student Characteristics

The surveys reviewed suggest that approximately 35 to 40 percent of the high school graduates in three States attend college. The following are summary statements of findings regarding characteristics of students related to their either enrolling or not enrolling in college.

1. *Sex.*—The college enrollment of boys exceeds that of girls in the ratio of approximately 13 to 10.

2. *Class rank.*—The percent of students enrolling in college increases as rank in high school graduating class increases. The relationship is fairly linear, the slope being more pronounced for boys than for girls.

3. *Mental ability.*—The percent of students enrolling in college increases as mental ability increases. The relationship is strikingly similar to that exhibited for class rank.

4. *Motives.*—The mental set to continue or not to continue the pursuit of an academic life is of extreme importance in determining whether or not an individual enrolls in college. Those not planning to go to college tended to place emphasis on values representing immediate, practical, and economic considerations. Preparing for a vocation appeared to be the dominant motive of those who enrolled in college.

5. *Finances.*—Ability to pay the cost is definitely a factor affecting the decision of some high school graduates concerning college attendance. It is difficult to evaluate the unique effect of finances due to its high relationship to motives for going or not going on to college. For example, more than 80 percent of the applicants who applied for but did not receive scholarships at Brigham Young University enrolled in college. The data on students not continuing their formal education beyond high school because of insufficient funds reveal that financial aid would be more readily accepted by the more capable than by the less capable individual. The Wisconsin study revealed that boys would be more willing to take advantage of student loans than girls.

6. *Marriage.*—Being married or planning to be married appears to reduce the probability of a student's enrolling in college. Having an education curtailed by marriage or engagement is associated more with females than with males, and more with low- than with high-ability students. Marriage as a factor preventing the continuance of a formal education affects only a very small percentage of the high school senior population.

7. *Military service.*—The armed services attract a sizable number of boys graduating from high school, and thus interrupt either temporarily or permanently their formal education. Many of them will receive training while in the military service.

Parental Characteristics

Listed below are summary statements of findings regarding selected parental characteristics related to their children's either enrolling or not enrolling in college.

1. *Occupation.*—High school seniors whose fathers (*a*) were in executive or professional occupations, (*b*) owned or managed businesses, or (*c*) did office or sales work were much more likely to attend college than the seniors whose fathers (*a*) owned or managed farms, (*b*) were factory workers, or (*c*) were in the skilled or semiskilled trades. However, the number of college-bound graduates was the same for both of these broad groups. The differences in the likelihood of students' going to college, as related to the occupations of the parents, decreased as the scholastic ability and achievement of the students increased.

2. *Education.*—The probability that secondary school students would go on to college increased markedly with each increment in the educational attainment of their parents. However, the Wisconsin study revealed that of the students planning to enroll in degree-granting institutions, about one-third had fathers who had attended college, approximately one-third had fathers who had graduated from high school but had not attended college, and about one-third had fathers who had not graduated from high school. The relationship between the educational level of the parents and the extent of planning to enroll in college decreased as the ability of the students increased. The educational level of parents appears to be more highly associated with enrollment in college than is the occupational level of parents.

3. *Attitudes.*—The findings of these three studies suggest that the decision to go to college is influenced by the attitudes of the parents. An attitude of indifference or discouragement on the part of his parents in regard to going to college is extremely difficult for a student to overcome. There is some indication that girls are more influenced than boys by the attitudes of their parents in making their decision about whether or not to continue their education at the college level.

4. *Ethnic origin.*—The Arkansas study revealed significant differences in the proportion of white and Negro students enrolling in college. There was only a slight sex difference between the proportion

of Negro boys and girls who matriculated. By sharp contrast, the percentage of white male students who enrolled exceeded the females by a substantial margin.

School Characteristics

There is a positive relationship apparent between the number of students who express the intention of entering college and the size of their high schools, the type of course in which they had been enrolled, and the plans of their peers. However, no clear-cut evidence was presented which would support the accepted notion that teachers and guidance programs strongly influence students to go on to college.

1. *Size.*—Small high schools yielded a proportionately smaller number of college-bound graduates than did the large schools. However, when the occupational and educational backgrounds of the parents and the location of colleges with respect to the high schools are considered, the differences in the sizes of schools did not appear to be significant. However, in Wisconsin, 34 percent of the graduates in the largest high schools obtained scores on the mental ability tests which fell within the top 20 percent, whereas this was true of only 18 percent of the graduates of the smallest high schools. The same study disclosed that those schools which had been accredited supplied a higher percentage of students to colleges than did those which had not obtained accreditation. Therefore, the mere size of a high school does not in and of itself seem to be highly related to the tendency of its graduates to enroll in college.

2. *Peer influence.*—Teenagers tend to exert considerable influence on each other. What friends and acquaintances their own age do and think can be tremendously important to adolescents. As one could expect from this observation of teenage behavior, a large number of the students in those studies which attempted to relate the plans of the subjects to those of their peer acquaintances stated that their peers had plans similar to their own. This was especially true of those who hoped to attend college.

3. *Influence of teachers and guidance personnel.*—None of the studies reviewed provided any clear-cut evidence of the extent to which teachers and guidance personnel influenced the decisions of students who indicated they would enroll in college. This type of information is extremely difficult to obtain. A determination of the relative effect of the critical forces operant in people's lives requires a degree of insight which few individuals possess. Therefore, in the absence of evidence to the contrary, one is justified in assuming that

guidance and instructional personnel do, either directly or indirectly, influence young people to attend college. The exact nature of this influence remains to be determined.

4. *Curriculums.*—It is customary for many students who plan to continue their education at the college level to take a college preparatory course in high school. This was found to be the case for the subjects in the two studies which investigated the relationship between the college plans of students and the high school courses they had taken. Many students enroll in curriculums which are not labeled "college preparatory," but which include the key courses of the preparatory curriculum. If these students were to be included in the category of the college preparatory students, the observed relationship between the type of course taken in high school and the tendency to enroll in college would be increased. However, no matter how great the actual relationship might be, whether or not a particular combination of courses predisposes a student to enroll in college would remain a matter of conjecture.

Community Characteristics

The Wisconsin survey was the only one which attempted to ascertain the relationship between the socioeconomic status of a community and the tendency for its high school seniors to express intentions to enter college. However, five of the studies reported on the apparent effect which the proximity of a college to their homes had upon the plans of students to continue their education at the college level.

Socioeconomic level.—The Wisconsin survey disclosed that increases in average income levels did not result in proportionate increments in the number of students planning to enroll in college.

Proximity to a college.—Several studies disclosed a tendency for a proportionately larger number of students whose homes were in a college community to continue their education at the college level than of those who did not live in such a community. However, data from the Wisconsin study suggest that the extent of urbanization of a community and the education and income levels of its residents appeared to be more important determiners of college enrollment than the presence or absence of an institution of higher learning.

VII. Implications

THE FOLLOWING IMPLICATIONS were derived from an analysis of the combined findings of the studies cited in this report.

1. A large number of above-average and superior students are not continuing their formal education at the college level. A disproportionate number of these students are girls. Therefore, a potential supply of human resources, both male and female, is not being tapped.

2. Lack of motivation is probably the greatest single deterrent to college attendance by capable youth. The social and the economic status of academically oriented individuals should be enhanced. An advanced education must be made a challenge to academically gifted students.

3. Lack of sufficient funds constitutes a serious barrier for some students to the fulfillment of their desire to obtain a college education. It is difficult, however, to differentiate between the relative effect of this deterrent and a student's lack of motivation.

Financial aid should be made available to talented students who wish to continue their education but need financial aid. Many large scholarships are awarded to students of superior scholastic ability who would probably attend college without financial aid. Many students who do not have superior ability but who are nonetheless above average probably are not granted large scholarships. This is not to say, however, that there are no students of superior scholastic ability who fail to enroll in college due to financial reasons. If the purpose of a scholarship program is to assist qualified students who would not otherwise go to college primarily because of lack of adequate finances, all pertinent information about the applicants, and not an indication of their scholastic aptitude alone, should be used as a basis for awarding the scholarships.

To be truly effective, a scholarship program must provide substantial assistance to students. Scholarships for only very small amounts which are applicable only at the freshmen level are inadequate. Consideration might well be given to increasing the amounts of individual scholarships and to extending their applicability beyond the freshman year.

Student loans should be made easily available to those who need them. The studies reviewed suggest that the attitudes of students toward borrowing money to pay for an education are changing. Whereas in the past student loan funds remained relatively unused, today they are attracting a great number of students. If loans are readily attainable, no student will be denied a college education solely because he lacks the money necessary to pay his college expenses. Loans for education represent a wise and practical investment on the part of society.

The results of the surveys suggest that if many academically capable girls are to be stimulated to attend college, a proportionately larger number of scholarships must be made available to them than to the boys. Girls tend to be more reluctant than boys to borrow money for college expenses. Parents appear to be more willing to assist their sons than their daughters to obtain a higher education. Moreover, it is generally more feasible for a boy to work his way through college than for a girl to do so.

4. The development of any program designed to encourage capable young people of this country to pursue a formal education beyond secondary school must include consideration for the attitudes of parents toward advanced education. An information program is needed to influence the thinking of parents regarding the value of a college education. Special attention should be directed toward improving parental attitudes toward college training for girls.

5. One of the greatest wastes of potential talent in the United States occurs among minority groups. Large numbers of individuals from these groups are not pursuing their education beyond high school.

6. The educational and occupational level of parents, the mental ability of students, and the academic accreditation of a high school apparently have a greater effect on the likelihood of students' enrolling in college than does the size of the high school. For all practical purposes, the background of parents and the intellectual capacity of students cannot be changed. However, since accreditation is achievable, it appears that one measure which can be taken to increase the flow of students from high school to college is that of raising the quality of instruction and facilities in the high schools. This should be accomplished with the support of the communities in which the schools are located and with effective leadership within the schools.

7. A comparative analysis of the studies reviewed reveals that the yield of college-going students varies from State to State. National attention needs to be given to equalizing the opportunities for college

training among geographic regions of the country. Measures should be taken to increase the yield of college-bound students in those sections where fewer than the expected number of young people enroll in college.

8. The specific location of a college appears not to be a barrier to enrollment. Presumably, if a college is readily accessible by ordinary means of transportation, students who are desirous of obtaining an education will find their way to it. Thus, whether or not college campuses are distributed throughout a State on the basis of population density appears to be less important than whether ample facilities are available to accommodate larger numbers of students than are now enrolled.

9. The finding that the plans of students appear to be influenced to an appreciable extent by the plans of their peers, suggests one possible measure which could be taken to increase the number of capable high school students who go to college. Sociometric techniques could be utilized to identify "stars," or key persons, among the better students. Encouraging these students to continue their education at the college level would presumably be an indirect method of influencing their peers to continue their education also.

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